SRS Citizen's Advisory Board

SRS Citizens Advisory Board

Old Radioactive Waste Burial Ground

Meeting Summary

December 15, 1999
Aiken Federal Building
Aiken, SC

The Citizens Advisory Board (CAB) Old Radioactive Waste Burial Ground (ORWBG) Focus Group met on December 15, 1999, 5:00 p.m. at the Aiken Federal Building, Aiken, S.C. The purpose of the meeting was to discuss the CAB Independent Scientific Peer Review (ISPR) status, status of 70% removal of tritium from the southwest (SW) plume, effectiveness of removing volatile organic compounds (VOCs) from the SW plume, impacts of the Resource Conservation and Recovery Act (RCRA) update on the Corrective Measures Study/Feasibility Study (CMS/FS), and a general discussion on institutional control. Those in attendance were:

CAB	Stakeholders	DOE/Contractors
Karen Paterson	Lee Poe	Rod Rimando, DOE
Wade Waters	Todd Crawford	Phil Prater, DOE
Jimmy Mackey	Jerry Devitt	Ed McNamee, BSRI
	Keith Collinsworth, SCDHEC	Don Toddings, BSRI
	Michael Moore, SCDHEC	John Bennett, BSRI
	Ken Feely, EPA	Gerald Blount, BSRI
	Bill Willoughby	Elmer Wilhite, WSRC
		Jim Cook, WSRC
		Jim Moore, WSRC

Karen Patterson, Administrative Lead, welcomed those in attendance and asked them to introduce themselves. She asked Lee Poe for the status of the CAB ISPR.

Mr. Poe, Technical Lead, stated that the Education, Research and Development Association (ERDA) of Georgia Universities was the ISPR. He gave a list of the members of the ERDA team identifying Dr. Ratib Karam as the team lead. Mr. Poe reviewed the ISPR scope of work and scheduled. A meeting is in the process of being scheduled for either January 5 or 6 with the ISPR team, the Focus Group, WSRC and DOE. WSRC and DOE will bring the team up to speed as well as give them a tour of the ORWBG area.

Mr. Poe asked Gerald Blount, BSRI, to give his presentations. Mr. Blount explained that he was the geotechnical lead for this project and John Bennett, BSRI, was the engineering lead. Mr. Blount stated that the reason for action associated with the Mixed Waste Management Facility (MWMF) southwest plume is that there are hazardous and non-hazardous contaminants being discharged into Fourmile Branch at concentrations greater than drinking water standards. The objective of the remedial action is

to mitigate the discharge of the contaminants into Fourmile Branch. The likely response action is seepline management with disposition of tritiated water through irrigation.

Mr. Blount stated that the VOCs had been characterized four to five years ago with the main contaminate being tritium. More recent information indicated that tritium and VOCs are going into Fourmile Branch. It is believed that the tritium was a continuous release from the source. The curve on the tritium flux goes down indicating decay. The purposed remedial action is to build a dam to impound the tritiated water and then irrigate the trees via evapotranspiration of the tritiated water vapor. The objective of the dam is to capture 25 to 35% of the water. A french drain system will be installed to capture more of the tritiated water. This whole process will slow down the travel time. The pond will only be about 6 to 7 feet deep.

In looking at the VOC's versus distance, from the point of exposure, there would only have to be a 22% reduction of the VOC's to meet the regulatory standard 900 feet from the point of exposure. It is felt this reduction can occur by either using recirculating wells or sparging wells.

The total tritium concentration is 5500 curries per year going to Fourmile Branch. Approximately 3000 curries/year, or 50%, will be reduced with the pond and drain system. It is felt that this 50% is an underestimate and that 75% reduction can be obtained.

It is felt that the rate of irrigation to the pine trees is 180 to 250 gallons/minute. This rate is well below what would be required to detrimentally effect the ecology. Pine trees would be planted over the years to get to a plantation arrangement. It is expected that 600 to 800 acres would eventually be involved in this project.

The difference between dose relations of surface water vs. atmospheric release, it is estimated there would be an 80% reduction in dose by placing the water into vapor form in the atmospheric release method. Irrigation mechanism adds approximately 1/24th dose (over 9 years) to SRS releases based on 1990 to 1998 releases.

The MWMF RCRA permit allows a phased approach and describes a three phased approach. Phase one is to reduce the tritium flux to Fourmile Branch by 70% in the near term, monitor effects of interim measures and other actions effluent discharge stream and Fourmile Branch, install monitoring well network and remediate the VOC hotspot. It is expected that this would be completed with five years. Phase two would evaluate phase one and perform further actions to eventually achieve tritium activities below the drinking water standard. It is expected that it could be 30 years before meeting the drinking water standard. Phase three would be to perform evaluations and modifications to improve effectiveness. Mr. Blount felt that these actions would result in no negative impact on the ORWBG project.

John Bennett, WSRC, was asked to review the ORWBG CMS/FS and Proposed Plan schedule. Mr. Bennett said the CMS/FS would be complete by February 8, 2000. Rev. 0 of the Proposed Plan would be available July 11, 2000. Rev. 1 of the Proposed Plan would be available September 24, 2000 and the public comment period would be November 2000 to December 2000.

Todd Crawford requested that a chart be developed by WSRC showing a prediction of concentrations of tritium in the seepline as a function of time.

Ms. Patterson asked Mr. Poe for his presentation on the potential use of institutional controls for the ORWBG. Mr. Poe said the purpose of his presentation was to compare the conclusion the Focus Group reached last spring on institutional control timing to other facts to see if the conclusions are still appropriate. Mr. Poe reviewed the information presented by Karen Patterson's team on institutional

control. The team concluded that it was prudent to consider active institutional control for a period of 100-years beyond cessation of active operation. Assuming the High Level Waste Tank closure was completed in 2038, then institutional control would be maintained until 2138. The basis for this decision was the Nuclear Regulatory Commission Regulation – 10 CFR-61 and the EPA Regulation – 40 CFR-191. Mr. Poe reviewed new information in the SRS Land Use Control Assurance Plan (LUCAP), the start of implementation of RCRA Permit for SW Groundwater Plume, Issuance of the initial Integrator Operable Unit and work on Fourmile Branch document and schedule and initiation of Stewardship consideration by DOE. It was concluded that it was not unreasonable to consider active institutional control through 2138 for the ORWBG. Mr. Poe also pointed out that before the landlord left the site, that the site should be cleaned up and institutional controls in place. However, this action should not be completed before there was a need for it.

Ms. Patterson asked if there were any other comments. Mr. Crawford reminded everyone that DOE was requesting input on Long Term Stewardship by January 4, 2000.

Mr. Poe stated that public comment was open until January 30, 2000 for the Steel Creek Integrated Operable Unit.

With no other comments, Ms. Patterson adjourned the meeting.

Meeting handouts may be obtained by calling 1-800-249-8155.